

Title (en)  
A semiconductor laser device and a method of producing the same

Title (de)  
Halbleiterlaser und Verfahren zur Herstellung desselben

Title (fr)  
Laser à semi-conducteur et sa méthode de fabrication

Publication  
**EP 0433051 B1 19980701 (EN)**

Application  
**EP 90313536 A 19901212**

Priority

- JP 1333390 A 19900122
- JP 2295390 A 19900131
- JP 2295490 A 19900131
- JP 2295590 A 19900131
- JP 8963490 A 19900404
- JP 16233490 A 19900620
- JP 32329589 A 19891212

Abstract (en)  
[origin: EP0433051A2] A semiconductor laser device having a mesa stripe whose side faces are facets of {111} planes is disclosed. In the laser device, a current blocking layer is formed on a semiconductor substrate (1) whose main surface is a (100) plane, and a channel (10) which is oriented along the <011> direction is formed in the current blocking layer. The mesa stripe is formed on the substrate (1) within the channel (10) by a selective growth technique. The mesa stripe has a multilayer structure (11) including an active layer (4) and is covered by a burying layer.

IPC 1-7  
**H01S 3/19**; **H01S 3/25**; **H01S 3/085**; **H01L 33/00**

IPC 8 full level  
**H01L 21/20** (2006.01); **H01L 33/00** (2010.01); **H01S 5/12** (2021.01); **H01S 5/20** (2006.01); **H01S 5/227** (2006.01); **H01S 5/40** (2006.01); **H01S 5/22** (2006.01); **H01S 5/323** (2006.01)

CPC (source: EP US)  
**H01L 21/02392** (2013.01 - EP US); **H01L 21/02395** (2013.01 - EP US); **H01L 21/02461** (2013.01 - EP US); **H01L 21/02463** (2013.01 - EP US); **H01L 21/02543** (2013.01 - EP US); **H01L 21/02546** (2013.01 - EP US); **H01L 21/0262** (2013.01 - EP US); **H01L 21/02639** (2013.01 - EP US); **H01L 33/0062** (2013.01 - EP US); **H01S 5/12** (2013.01 - EP US); **H01S 5/20** (2013.01 - EP US); **H01S 5/227** (2013.01 - EP US); **H01S 5/4031** (2013.01 - EP US); **H01S 5/1228** (2013.01 - EP US); **H01S 5/2059** (2013.01 - EP US); **H01S 5/2201** (2013.01 - EP US); **H01S 5/2213** (2013.01 - EP US); **H01S 5/2272** (2013.01 - EP US); **H01S 5/2275** (2013.01 - EP US); **H01S 5/32391** (2013.01 - EP US); **H01S 5/4037** (2013.01 - EP US)

Citation (examination)

- EP 0319207 A2 19890607 - MITSUBISHI ELECTRIC CORP [JP]
- 1986; & JP-A-61 104 867 (TOSHIBA CORP.)
- Patent Abstracts of Japan, vol. 11, no.81 (E-488)(2528) 12 March 1987

Cited by  
EP0472221A3; EP0527615A1; EP0525779A3; EP0637111A1; US5659565A; DE19527000A1; GB2292005A; US5604764A; US5656539A; GB2292005B; WO9408369A1

Designated contracting state (EPC)  
DE FR GB

DOCDB simple family (publication)  
**EP 0433051 A2 19910619**; **EP 0433051 A3 19920415**; **EP 0433051 B1 19980701**; DE 69032451 D1 19980806; DE 69032451 T2 19990128; US 5070510 A 19911203

DOCDB simple family (application)  
**EP 90313536 A 19901212**; DE 69032451 T 19901212; US 62516990 A 19901210